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BILL LOCKYER
Attorney General

State of California
DEPARTMENT OF JUSTICE

110 WEST A STREET, SUITE 1100
SAN DIEGO, CA 92101

P.O. BOX 85266
SAN DIEGO, CA 92186-5266

Public: (619) 645-2001
Telephone: (619) 645-2041
Facsimile: (619) 645-2012
E-Mail: Ed.Ochoa@doj.ca.gov

May 16, 2002

FMCSA-1998-3298-285
FMCSA-1998-3299-289
FMCSA-2001-11060-16

VIA FACSIMILE & U.S. MAIL

Honorable Julie Anna Cirillo, Deputy Administrator
Federal Motor Carrier Safety Administration
c/o Docket Clerk
U.S. DOT Dockets
Room PL-401
400 Seventh Street, S.W.
Washington, D.C. 20590-0001

RE: Docket Nos. FMCSA 98-3298, 3299; FMCSA 2001-11060

Dear Deputy Administrator Cirillo:

California Attorney General Bill Lockyer, acting in his independent capacity to protect the natural resources of the State of California, respectfully summits the attached additional comments in reference to the above-mentioned dockets.

Please contact me if you have any questions regarding this matter.

Sincerely,

EDWARD H. OCHOA
Deputy Attorney General

For BILL LOCKYER
Attorney General

Enclosure

BILL LOCKYER, Attorney General
for the State of California
RICHARD M. FRANK
Chief Assistant Attorney General
THEODORA BERGER
Senior Assistant Attorney General
SUSAN DURBIN, State Bar No. 81750
EDWARD H. OCHOA, State Bar No. 144842
Deputy Attorneys General
P.O. Box 94244-2550
Sacramento, CA 94244-2550
Telephone: (916) 324-5475
Fax No. (916) 327-2319

Attorneys for Amicus Curiae
People of the State of California ex rel.
Attorney General Bill Lockyer

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

PUBLIC CITIZEN, INTERNATIONAL BROTHERHOOD OF TEAMSTERS, BROTHERHOOD OF TEAMSTERS, AUTO AND TRUCK DRIVERS, LOCAL 70, CALIFORNIA LABOR FEDERATION, CALIFORNIA TRUCKING ASSOCIATION, and ENVIRONMENTAL LAW FOUNDATION,

Plaintiffs,

vs.

DEPARTMENT OF TRANSPORTATION, FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION, JOSEPH M. CLAPP, and NICHOLAS R. WALSH,

Defendants.

Docket No. C02-2115-CW

DECLARATION OF ALISON K. POLLACK IN SUPPORT OF AMICUS CURIAE MEMORANDUM OF POINTS AND AUTHORITIES

I, Alison K. Pollack, declare:

1. I am a Principal at ENVIRON International Corporation ("ENVIRON"), which is well known for its extensive experience in the development and application of emission inventory, photochemical, particulate matter, and visibility air quality models for assessment of ozone and particulate matter issues. I have personal knowledge of the facts set forth herein and if called as a witness, I could and would competently testify thereto.

2. ENVIRON has been retained by the Office of the California Attorney General to serve as a technical consultant for the review and evaluation of the January 16, 2002 Final Programmatic Environmental Assessment ("EA") which has been prepared and issued by defendant Federal Motor Carrier Safety Administration. In this regard, ENVIRON has prepared and submitted to defendants a technical evaluation of defendants' EA.

3. My field of specialization includes extensive technical and managerial experience in the analysis of emissions inventories and models. My primary expertise is in the analysis of on-road and off-road mobile source emissions and emission models, on-road and off-road mobile source control programs, and environmental statistics. I am also nationally recognized for my expertise in the data and analysis methods used to evaluate vehicle emissions test programs and to develop both on-road and off-road mobile source emission factor models. I have served on two National Academy of Sciences (NAS) Committees – Review of EPA's Mobile Source Emissions Factor Model (MOBILE), and Effectiveness of Vehicle Emission Inspection and Maintenance Programs.

4. My educational background includes a B.S. degree in statistics from Princeton University and a M.S. degree in statistics from the University of Wisconsin. I am also a member of the American Statistical Association and have authored and co-authored numerous technical publications concerning mobile-source emissions modeling. A true and correct copy of my resume which further describes my qualifications is attached hereto as Exhibit "A".

5. ENVIRON is a 450-person health and environmental consulting firm with offices throughout the United States and several offices in Europe and Asia. Founded in 1982, ENVIRON has gained a national reputation as a leader in the areas of environmental strategic

analysis, regulatory compliance assurance, environmental and public health risk assessment, and risk management. Our multi-disciplinary staff is comprised of experts in air, water, and soils science and engineering, and includes environmental and chemical engineers, air scientists, hydrogeologists, toxicologists, chemists, industrial hygienists, other environmental and public health scientists, and regulatory and policy experts. ENVIRON's wide array of private and public sector clients includes federal regulatory agencies and policy arms and state and local governments throughout the U.S. as well as some of the nation's largest public and private companies and leading law firms, industrial trade associations, plaintiffs and defendants in toxic tort litigation, real estate developers, and insurance professionals.

6. As a result of the North American Free Trade Agreement (NAFTA), Mexican trucks, which until now have not been allowed to operate within California except within very limited commercial zones, will soon be allowed to drive on California roadways. The purpose of this declaration is to provide for the Court an overview of the environmental impacts of allowing Mexican trucks to operate on California roadways. ENVIRON reviewed the air quality analysis of the environmental impacts of cross-border diesel truck emissions performed in support of the Federal Motor Carrier Safety Administration's (FMCSA's) Finding of No Significant Impact (FONSI) and EA[1], and found many shortcomings.[2] A true and correct copy of ENVIRON's technical report, dated April 18, 2002, is attached hereto as Exhibit "B." This document summarizes key findings from that review, and puts them into the context of current and in progress California and federal air quality regulations.

Diesel exhaust emissions pose a health threat to Californians

7. The impact of diesel emissions on air quality in California has been well documented in numerous research studies and identified as a serious health concern by major

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1 "Finding of No Significant Impact, Safety Oversight for Mexican Domiciled Commercial Motor Carriers; Final Programmatic Environmental Assessment," US Department of Transportation, Federal Motor Carrier Safety Assessment, Prepared by the John A. Volpe National Transportation Systems Center, January, 2002.

air pollution control agencies in California. On August 27, 1998, the California Air Resources Board (CARB) identified diesel particulate emissions as a Toxic Air Contaminant (TAC), thus ending a near-decade long investigation into the health effects of exposure to diesel exhaust.[3] The U.S. Environmental Protection Agency will shortly also declare diesel exhaust to be a TAC.[4] An extensive study of localized impacts of diesel and other toxic pollutants was conducted in Southern California during 1998-1999 and found that the contribution to cancer risk is dominated by mobile sources, with more than 70 percent of all risk attributed to diesel particulate emissions.[5] Another 20 percent was contributed by other toxics associated with mobile sources.

8. The State of California has the legal authority to adopt regulations to control on- and off-road vehicles and consumer products for criteria pollutants, and mobile and stationary sources for toxic air pollutants. It also has unique authorities under the federal Clean Air Act to adopt emissions standards for mobile sources that are more stringent than the federal controls. The CARB has developed a comprehensive master plan that addresses its control activities under the title "*Clean Air Plan: Strategies For A Healthy Future, 2002 - 2020.*"[6] The CARB Clean Air Plan (CAP) is currently undergoing public review and may be adopted by the CARB as state policy in mid-summer 2002. When adopted by the CARB's governing board, the CAP will constitute an action plan that will guide CARB's statewide control priorities and activities. The measures in the Clean Air Plan, and their prospective emission reductions and air quality benefits, would later be incorporated in locally developed

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2 ENVIRON, "Review of emissions increases with Mexican heavy-duty diesel trucks operating in California and elsewhere in the U.S.," April 18, 2002.
3 California Environmental Protection Agency, Air Resource Board Meeting, August 27, 1998, Sacramento, California.
4 Chris Grundler, Deputy Director, Office of Transportation and Air Quality. Keynote speaker at 12th CRC On-Road Vehicle Emissions Workshop, San Diego, April 16, 2002.
5 South Coast Air Quality Management District, "Multiple Air Toxics Exposure Study II (MATES-II)," Diamond Bar, California, March 17, 2000, Section 7.1, finding 3.

regional plans, whether the regional plans are developed in response to federal or state Clean Air Act requirements.[7] While the CAP will not be submitted to EPA as a formal State Implementation Plan (SIP) update, many of its commitments for additional emission reductions will become a part of the regional SIPs and thus become binding on the affected sources.[8]

9. An important component of the CAP, and of particular interest to the consequences of allowing Mexican trucks to pass through California areas, is the control of emissions from heavy-duty diesel vehicles. The CAP projects that in 2010, 44 percent of the NO_x emissions and 34 percent of the PM10 emissions from all on-road mobile sources will be from heavy-duty diesel vehicles.[9] The CAP proposes seven strategies to reduce emissions from heavy-duty engines and vehicles.[10] They include cleaner truck and bus incentives, community-based vehicle inspections, controlling vapors from gasoline cargo tankers, computerized systems to detect malfunctions and excess emissions, inspection of NO_x emissions from buses and trucks, requiring engine manufactures to test existing buses and trucks, and an extensive retrofit program to clean up the existing bus and truck fleet. The CAP also incorporates the CARB Diesel Risk Reduction Plan (DRRP) that earlier laid out a strategy to reduce emissions from diesel particulate matter.[11] The DRRP includes new regulatory standards for all diesel-fueled engines to reduce diesel PM emissions by 90 percent, retrofit of in-use engines, and the use of low sulfur fuel to provide the quality of diesel fuel needed by the advance diesel PM emission controls.[12] CARB cannot extend the application of these emissions control measures to the Mexican vehicle fleet.

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6 California Air Resources Board, Clean Air Plan: Strategies for a Healthy Future 2002-2020, http://www.arb.ca.gov/planning/caplan/caplan.htm

7 Letter from Robert D. Fletcher, Chief, Planning and Technical Support Division, CARB, noticing the May 20-23, 2002 Workshops, page 1, http://www.arb.ca.gov/planning/caplan/notice.doc

8 Ibid

9 California Air Resources Board, Clean Air Plan: Strategies for a Healthy Future 2002-2020, Sacramento, California, March 15, 2002, Pg. II-C-2

10 Ibid, Pg. II-C-10

11 Ibid, Pg. I-F-61,

12 CARB Diesel Risk Reduction Program, http://www.arb.ca.gov/diesel/dieselrrp.htm

10. One of the more significant measures proposed in the CAP is a diesel retrofit rule.[13] A retrofit is a device installed on an existing, in-use vehicle to reduce exhaust emissions of one or more pollutants. The suggested rule would effect diesel retrofits for refuse haulers, fuel tanker trucks, public and publicly contracted, on-road, and off-road vehicles. CARB has indicated it will require 85 percent reduction in diesel particulate matter and full implementation of the regulation by 2007. Once again, these controls in the CAP proposal do not apply to Mexican vehicles and this will increase the impact those vehicles have upon air quality in California.

California areas are currently in violation of Federal and State Air Quality Standards

11. Both the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) set ambient air quality standards applicable to California. USEPA's standards, known as National Ambient Air Quality Standards (NAAQS), are set under authority of the Federal Clean Air Act; CARB sets state standards under authority of the California Health and Safety Code. The list of pollutants for which the Federal and State governments have set standards are slightly different, but both governmental bodies have set standards for ozone (O3) and for airborne particulate matter (PM) below a specified size, i.e., with aerodynamic diameter less than 10 μm (PM10). The USEPA reviews air quality monitoring data to identify localities with concentrations of pollutants that exceed the maximum allowable levels specified in the NAAQS. This information is used by the USEPA to define "nonattainment" areas. States such as California that have nonattainment areas are required to submit State Implementation Plans (SIPs) detailing the emission reduction measures they plan to adopt to achieve attainment of each applicable NAAQS by the attainment dates specified in the Clean Air Act. The CARB goes through a similar process for identifying nonattainment areas and air quality management plans must also be developed for these areas. Unlike the federal NAAQS, however, the State ambient air quality standards are not tied to any specific attainment date.

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13 Ibid, On-road, heavy duty rule 7, Pursue Approaches to Clean Up the Existing Truck and Bus Fleet, Pg. II-C-19.

Tables 1 and 2 list, respectively, all current Federally designated ozone (O3) and particulate matter (PM10) nonattainment areas in California along with their nonattainment classifications as of 15 January 2002. Table 3 summarizes attainment/nonattainment status with respect to the California sate air quality standards for ozone (O3) and particulate matter (PM10). There are no specific dates specified in State law or regulations by which attainment must be achieved in areas designated nonattainment. However, the California Clean Air Act requires areas that violate the State standards to endeavor to attain them by the earliest practicable date. Most urban regions do not meet the State ozone standard and virtually all areas violate the existing PM10 standard. To aid attainment efforts, State law directs ARB to reduce emissions from vehicles, fuels and consumer products.

On-road Motor Vehicle Emissions Will Increase Without the TRO

12. If Mexican trucks are permitted to drive on California roadways, emissions from on-road motor vehicles in California will likely increase immediately. This is because emissions from Mexican trucks, on average, are higher than the US fleet. They are higher for two reasons. First, Mexican emissions standards for heavy-duty diesel vehicles were not established until 1993, and so pre-1993 Mexican vehicles will have much higher emissions than pre-1993 California vehicles. Second, the average age of the Mexican diesel line-haul fleet is much older than that in California, and those older vehicles have higher emissions.

Past and Future Emissions Regulations for Mexican Trucks Are Not as Stringent as US Regulations

13. Emissions for Mexican heavy-duty diesel vehicles were not implemented until the 1993 model year. Heavy-duty emissions standards for US trucks were in place for many years prior to 1993. Details of the standards may be found in ENVIRON's 18 April 2002 memorandum. For all model years prior to 1993, Mexican heavy-duty diesel vehicles will thus have higher emissions than US heavy-duty diesel vehicles from the same model year. In other words, a ten-year old Mexican truck will have higher emissions on average than a 10-

year old US truck. FMCSA did not acknowledge these emissions standards differences in their air quality analysis.

14. The US has entered in legal agreements with engine manufacturers to retrofit heavy-duty engines to correct a defeat device employed by many manufacturers to circumvent emission regulations. This retrofit agreement, which will reduce emissions from a portion of the US heavy-duty diesel vehicle fleet, does not apply to Mexican vehicles, thus resulting in higher per vehicle emissions for Mexican line-haul trucks compared with California or other US trucks. FMCSA did not acknowledge the emissions reductions from these retrofits that will be seen in US but not Mexican heavy-duty diesel vehicles.

15. FMCSA also did not acknowledge current differences between Mexican and California diesel fuel. California diesel fuel has additional requirements beyond federally mandated US diesel fuel, and the California diesel fuel has been shown in testing to produce lower NO_x and PM emissions in test engines.[14] Mexican trucks will have higher PM and NO_x emissions with the use of diesel fuels purchased outside California but consumed within California.

16. FMCSA performed their air quality analysis on the current fleet only. There are likely to be even larger emissions increases in future years. The US EPA has promulgated very strict NO_x and PM emissions standards for heavy-duty diesel vehicles beginning with the 2007 model year. These 2007 emissions standards are a factor of 20 times lower than the current standards for NO_x and a factor of ten times lower than current standards for PM_{10}. In addition, the 2007 regulations require diesel fuel sulfur levels to be significantly lower than current diesel fuel sulfur levels to enable emission control technologies to meet the future engine exhaust standards. We are not aware of any plans for Mexico to adopt either the more stringent US 2007 emissions standards or the low sulfur diesel fuel regulations, and so PM and NO_x emissions from future Mexican trucks will be significantly higher than US trucks in

14 The ENVIRON April 18, 2002 memorandum cites the emissions benefits of California diesel fuel that are assumed by CARB in their EMFAC2001 on-road vehicle emissions model.

future years. In addition, California heavy-duty diesel vehicles that refuel in Mexico and return to operate within California may unintentionally compromise their emission control devices.

Mexican Heavy-Duty Diesel Trucks Are Older on Average Than US Heavy-Duty Diesel Trucks

17. Because of differences in emissions standards, the age of the Mexican truck fleet compared to the age of the California truck fleet is of paramount importance, as older vehicles on average have higher emissions. What is important in terms of emissions estimates is not just the average age of the fleet, but also how many miles on average each vehicle drives annually. The combination of vehicle age and number of miles driven per year as a function of vehicle age is referred to as the travel fraction. Figure 1 compares the California and Mexican truck travel fractions for so-called heavy-heavy-duty diesel vehicles, those trucks with gross vehicle weight rating of more than 60,000 pounds that constitute most of the line-haul trucking. These travel fractions are derived from the models that have been developed to estimate California on-road vehicle emissions (EMFAC2001, developed by CARB) and Mexican on-road vehicle emissions (MOBILE5-Mexico, a Mexican version of EPA's MOBILE5 on-road vehicle emission factor model.[15]) The travel fraction for a given age is the fraction of total annual miles driven for the vehicle class.[16] For example, Figure 1 shows that one-year-old trucks in aggregate constitute about eight percent of the California heavy-heavy-duty diesel vehicles (HHDDV), but only about one percent of the Mexican HHDDV. Overall the figure shows that a far greater proportion of annual trucking miles are driven by older Mexican trucks than by older Californian trucks. Calculations using the travel fractions shown in Figure 1 show that in the Mexican HHDDV fleet, almost 80 percent of the miles are

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15 "Mexico Emissions Inventory Program Manuals, Volume VI, Motor Vehicle Inventory Development," Radian International, May 17, 1996.

16 ENVIRON's April 18,2002 memorandum describes vehicle age distributions, which are part of the travel fraction distribution. The memorandum stated that CARB EMFAC2001 documentation says that they assumed that the age distributions for California and Mexican trucks are the same in EMFAC2001, but that we found different age distributions in the source code. Since that time, we have learned from CARB staff that CARB indeed assumed that the age distributions were the same at the time the model was developed because they did not have access to Mexican diesel fleet age distributions. Numerical differences now in the model source code are an artifact of updating California county age distributions but leaving the Mexican truck age distributions unchanged from the earliest version of EMFAC2001.

driven by trucks 10 years old or older; since Mexican diesel trucks were not regulated until 1993, these trucks in the current fleet are all uncontrolled. In the Californian HHDDV fleet, only about 45 percent of the miles are driven by HHDDV ten years or older.

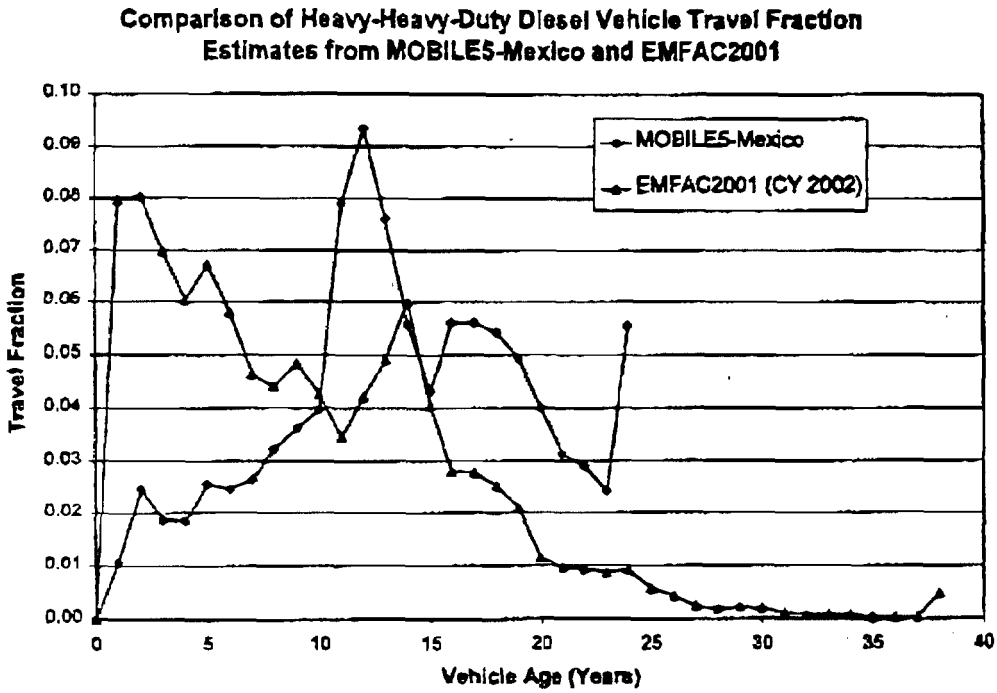

Figure 1. Travel fractions for California heavy-heavy-duty diesel vehicles (HHDDV) from CARB EMFAC2001 model compared to Mexican HHDDV from M5-Mexico model.

Travel on California Roadways by the Older Mexican Fleet with Less Stringent Emissions Regulations Will Immediately Increase On-road Vehicle Emissions in California, and Will Also Increase Emissions in the Future

18. The combination of the two factors discussed above – less stringent Mexican emissions standards and an older Mexican fleet – will very likely result in an immediate increase in emissions in California when the Mexican trucks are permitted to drive past the border areas. We do not have sufficient time at this point to perform a detailed analysis, but the immediate emissions increase in each California ozone and PM nonattainment

area (or county) can be estimated using CARB's EMFAC2001 model, the Mexican HHDDV travel fractions from the MOBILE5-Mexico model, and other available sources of information. Future year emissions increases can also be estimated using these models. Without Mexican adoption of the very stringent US EPA 2007 heavy-duty diesel emissions standards and diesel fuel sulfur regulations, the disparity between US and Mexican fleet emissions will increase over time in future years.

19. Critical to the estimation of emissions increases with Mexican trucks driving on California roadways is the estimate of the number of Mexican trucks that will cross the border and continue to drive through California on state roads. The US Customs Service reported slightly more than one million trucks crossing the border from Mexico into California in fiscal year 2001, of which the majority are Mexican trucks.[17] It is not yet clear what fraction of these Mexican trucks will drive past the border zone on California roadways, but even a very small fraction will likely cause an immediate emissions increase because of the significant differences in emissions standards and vehicle fleet ages.

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17 United States General Accounting Office, "North American Free Trade Agreement Coordinated Operation Plan Needed to Ensure Mexican Trucks' Compliance with U.S. Standards," GAO-02-238, December 2001, p. 5.

Table 1. Federal nonattainment classifications and attainment dates for areas in California designated nonattainment for ozone (O3). (Source: http://www.epa.gov/oar/oaqps/greenbk).

Area	Counties18	O3 Classification 19	O3 Attainment Date
Chico	Butte	Transitional (185a)	Appears to have attained in 2000
Eastern Kern County	Kern (P)	Serious	11-15-2001
Imperial County	Imperial	Transitional (185a)	Nonattainment
Los Angeles South Coast Air Basin	Los Angeles (P), Orange, Riverside (P), San Bernardino (P)	Extreme	11-15-2010
Sacramento Metro	El Dorado (P), Placer (P), Sacramento, Solano (P), Sutter (P), Yolo	Severe-15	11-15-2005
San Francisco Bay Area	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano (P), Sonoma (P)	Other	11-15-2000 (200620)
San Joaquin Valley	Fresno, Kern (P), Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare	Severe-15	11-15-2005

18 (P) Indicates only a portion of the county is included within the area boundaries

19 Areas listed as "Transitional (185a)" were designated as an ozone nonattainment area as of the date of enactment of the Clean Air Act Amendments of 1990 but have not violated the national primary ambient air quality standard for ozone for the 36-month period commencing on January 1, 1987, and ending on December 31, 1989. Twelve areas were classified transitional in 1991. (See section 185A of the Clean Air Act.)

20 Latest projected SIP attainment date

Santa Barbara-Santa Maria-Lompoc	Santa Barbara	Serious	11-15-1999 (Attains, but not yet redesignated)
Southeast Desert Modified AQMA	Los Angeles (P), Riverside (P), San Bernardino (P)	Severe-17	11-15-2007
Ventura County	Ventura	Severe-15	11-15-2005
Yuba City	Sutter (P), Yuba	Transitional (185a)	Attains, but not yet redesignated

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Table 2. Federal nonattainment classifications and attainment dates for areas in California designated nonattainment for particulate matter (PM_{10}). (Source: http://www.epa.gov/oar/oaqps/greenbk).

Area	Counties[21]	PM_{10} Classification	PM_{10} Attainment Date
Coachella Valley	Riverside (P)	Nonattainment (Serious)	12-31-2000 [22]
Imperial Valley	Imperial (P)	Nonattainment (Moderate)	12-31-1995[23]
Los Angeles South Coast Air Basin	Los Angeles (P), Orange, Riverside (P), San Bernardino (P)	Nonattainment (Serious)	12-31-2000
Mono Basin	Mono (P)	Nonattainment (Moderate)	Redesignation pending
Owens Valley	Inyo (P)	Nonattainment (Serious)	12-31-2006
Sacramento	Sacramento	Nonattainment (Moderate)	Redesignation pending
San Bernardino	San Bernardino (P)	Nonattainment (Moderate)	Redesignation pending
San Joaquin Valley	Fresno(P), Kern (P), Kings (P), Madera (P), San Joaquin (P), Stanislaus (P), Tulare (P)	Nonattainment (Serious)	12-31-2001[24]
Searles Valley	Inyo (P), Kern (P), San Bernardino (P)	Nonattainment (Moderate)	12-31-95[25]

21 (P) Indicates only a portion of the county is included within the area boundaries
22 Redesignation pending, but recently has shown new violations
23 Attainment under 179B(d) of CAA ("but, for" clause)
24 San Joaquin Valley failed to submit SIP, and EPA mandated new SIP by 12-31-2002
25 On June 5, 2001, EPA proposed splitting Searles Valley into three separate NAAs – Trona, Coso Junction, and Indian Wells Valley. Trona attained by 12-31-1994; Coso Junction and Indian Wells Valley are reclassified as Serious. No final action yet by EPA nor new attainment deadlines.

Table 3. Status of California Air basins with respect to the state ambient air quality standards for ozone (O3) and particulate matter (PM_{10}). Source: http://www.arb.ca.gov/desig/adm/adm.htm.

Air Basin	Counties[1]	O3 Status	PM_{10} Status
San Diego	San Diego	Nonattainment	Nonattainment
South Coast	Los Angeles (P), Orange, Riverside (P), San Bernardino (P)	Nonattainment	Nonattainment
Mojave Desert	San Bernardino (P), Riverside (P), Kern (P), Los Angeles (P)	Nonattainment	Nonattainment
Salton Sea	Imperial, Riverside (P)	Nonattainment	Nonattainment
South Central Coast	Ventura, Santa Barbara, San Louis Obispo (P)	Nonattainment	Nonattainment
Great Basin Valleys (Except Mono Co.)	Inyo, Alpine	Unclassified	Nonattainment
Great Basin Valleys (Except Alpine and Inyo counties)	Mono	Nonattainment	Nonattainment
San Joaquin Valley	San Joaquin, Stanislaus, Merced, Fresno, Kings, Tulare, Kern (P), Madera	Nonattainment	Nonattainment
North Central Coast	Monterey, San Benito, Santa Cruz	Attainment	Nonattainment
San Francisco Bay	Marin, Napa, Sonoma (P), San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Solano (P)	Nonattainment	Nonattainment
Lake Tahoe	El Dorado (P), Placer (P)	Attainment	Nonattainment

Mountain Counties (except Sierra and Plumas Counties)	Mariposa, Tuolumne, Calaveras, Amador, El Dorado, Placer, Nevada	Nonattainment	Nonattainment [26]
Mountain Counties (Sierra and Plumas counties)	Sierra and Plumas	Unclassified	Nonattainment
Valley	Sutter, Yuba, Yolo, Solano (P)	Attainment	Attainment
Lake County	Lake	Attainment	Attainment
North Coast	Del Norte, Humboldt, Trinity, Mendocino, Sonoma (P)	Attainment	Nonattainment
Northeast Plateau	Modoc, Siskiyou, Lassen	Attainment	Nonattainment

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26 Mariposa, Tuolomne, and Amador counties are designated "unclassified"
27 Colusa county is classified as "nonattainment-transitional".

I declare under penalty of perjury that the foregoing is true and correct and that this declaration is executed on May 1, 2002, in San Francisco, California.

Alison K. Pollack

ALISON K. POLLACK

EXHIBIT A

EXHIBIT "A"

Exhibit "A" to Declaration of Alison Pollack

ALISON K. POLLACK

EDUCATION

1979 M.S., Statistics, University of Wisconsin - Madison

1977 B.S., Statistics, Princeton University

EXPERIENCE

Ms. Alison K. Pollack, Principal at ENVIRON International Corporation, has extensive technical and managerial experience in the analysis of emissions inventories and models. Ms. Pollack's primary expertise is in the analysis of on-road and off-road mobile source emissions and emission models, on-road and off-road mobile source control programs, and environmental statistics. Ms. Pollack is nationally recognized for her expertise in the data and analysis methods used to evaluate vehicle emissions test programs and to develop both on-road and off-road mobile source emission factor models. Ms. Pollack has served on two National Academy of Sciences (NAS) Committees - Review of EPA's Mobile Source Emissions Factor Model (MOBILE), and Effectiveness of Vehicle Emission Inspection and Maintenance Programs.

Ms. Pollack's project experience includes the following:

- Currently directing a detailed emissions assessment of all equipment at a major airport. Criteria and toxic pollutant emissions are being estimates for all aircraft, ground support equipment, and diesel and gasoline ground access vehicles as part of a health risk assessment.

- For the Western Regional Air Partnership (WRAP), currently directing a large project with multiple subcontractors for developing a comprehensive and detailed emission inventory for all on-road and off-road mobile sources for 13 Western States. Inventories are being used in regional haze modeling being performed by ENVIRON and other modelers for WRAP.

- Currently directing all emission inventory and air quality modeling work for development of a PM_{10} Maintenance Plan (SIP) for Northern Ada County, Idaho. The project requires development of a detailed "bottom up" emission inventories for all emissions sources for current and future years, conducting receptor modeling using locally derived source profiles, and conducting episodic and annual air quality modeling for base and multiple future years. ENVIRON will prepare a Maintenance SIP for the Idaho Department of Environmental Quality, including additional control measures if needed to attain the standard.

ALISON K. POLLACK

- Currently directing a large multi-year umbrella contract covering a broad variety of tasks related to emission inventory improvement for the Texas Natural Resources Conservation Commission (TNRCC). Major projects to date include improvements to EPA default 1999 county-level emission inventories, and detailed NOx, VOC, CO, SO2, and PM emission inventories for all counties in Texas for all years in the period 1990-2010.

- Currently evaluating expected impacts of ozone and particulate matter NAAQS revisions on transportation planning for the NAS/NRC National Cooperative Highway Research Program. Evaluation includes a review of potential control technologies for further reductions (beyond current Federal programs) in on-road light-duty and heavy-duty vehicle emissions.

- Currently evaluating on-road and off-road mobile source NOx control measures for the Houston-Galveston nonattainment area. Evaluation includes technical analyses of potential emissions reductions and assessment of control measure cost-effectiveness. Also currently evaluating mobile source NOx control measures for the Sacramento, CA nonattainment area.

- Currently directing a project on the impacts of biodiesel fuels in heavy-duty diesel vehicles on emissions, air quality, and human health. All available biodiesel test data are being analyzed, and emissions impacts are being incorporated into the latest mobile source emission factor models from EPA and CARB. The air quality and health effects evaluation includes ozone, carbon monoxide, and particulate matter in several cities.

- Performed beta testing of MOBILE6-DRAFT for EPA's Office of Transportation and Air Quality by comparing nonattainment area emission inventories generated with MOBILE6-DRAFT and MOBILE5b. Converted State Implementation Plan (SIP) MOBILE5 input files to MOBILE6-DRAFT input files and provided emission estimates without current and planned control programs to compare the results of the two models.

- Reviewed available technical documents and data bases used in the development of EPA's new MOBILE6 emission factor model and California's new EMFAC2000 model. The reviews encompassed exhaust and evaporative emission factors for all classes of vehicles, emission factor adjustments (e.g., for effects of state Inspection and Maintenance programs), and activity data used to derive composite fleet average emission rates.

- Currently directing a team of computer scientists and engineers on the development of a nonroad mobile source emissions model for EPA's Office of Mobile Sources (OMS). The model estimates population and emissions for all off-road mobile equipment categories, and all fuel types (gasoline, diesel, gas). The model consists of three components: a graphical user interface, a Fortran emissions calculation program, and an ACCESS-based reporting utility. The model has been released by EPA in draft form on the OMS web page.

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- Evaluated on-road and off-road mobile source control measures for the Dallas-Ft. Worth ozone nonattainment area. A comprehensive listing of potential control programs was developed, and the emissions and cost implications of each control measure were evaluated. Control strategy packages for inclusion in the overall State of Texas State Implementation Plan revision were developed to achieve the needed reductions, and assistance was provided to the Texas Natural Resources conservation Commission (TNRCC) in photochemical modeling to assess air quality impacts of proposed control strategies.

- Directed a project on the estimation of population, activity, and emissions for construction and mining equipment in the Houston/Galveston nonattainment area. To improve emission inventory estimates, information on construction equipment usage was obtained by surveying a stratified sample of ongoing construction projects.

- Directed an evaluation of the contribution of heavy-duty diesel truck NO_x emissions to the total NO_x inventory in the Eastern United States. This included review of heavy-duty truck activity data, a review of heavy-duty vehicle emission factors in EPA's MOBILE model, and analysis of the air quality contribution of heavy-duty truck NO_x emissions.

- Evaluated proposed changes in the Washington State Inspection and Maintenance (I/M) program in terms of emissions impacts. Detailed modeling was performed with EPA's MOBILE model to isolate emissions effects of including or excluding specific types of vehicles in the program. In addition, MOBILE modeling assumptions for I/M effects were reviewed and revised as needed.

- Directed a large-scale project on the statistical and engineering evaluation of exhaust and evaporative emissions factors for all vehicle classes in EMFAC7G, the mobile source emission factor model developed by the California Air Resources Board (CARB). The project included computer simulations to estimate uncertainties in estimated emissions based on uncertainties in underlying model data bases, assumptions, and statistical analyses.

- Directed an evaluation of heavy-duty vehicle emission factors in the CARB EMFAC7G and EPA MOBILE5 emission factor models, and development of FORTRAN code for adding deterioration rates in particulate matter emissions as a function of vehicle mileage or age, for EPA's next version of the on-road mobile source particulate matter emission model (PART5).

- Directed a project in which ENVIRON staff provided a broad variety of technical services related to developing an approvable particulate matter (PM_{10}) SIP and a carbon monoxide (CO) Maintenance Plan for the nonattainment areas in Jackson County, Oregon (Rogue Valley). Tasks included development of detailed mobile source emission inventories and other emission inventory components, design and execution of local roadway sampling for fugitive dust, critical review of PM air quality modeling, and facilitation of the public involvement process, and coordination of the SIP revision process with regulatory agencies as well as local industry and interest groups.

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- Assembled and analyzed a data base of chemical composition of exhaust emissions from all categories of mobile source emissions (on-road and off-road gasoline and diesel) and chemical composition of gasoline and diesel fuels. The data base includes thousands of individual test results from dozens of test programs in and outside North America.

- Analyzed an extensive data base of vehicle emissions to determine the effects of a fuel additive on regulated pollutants. Performed air quality modeling to assess the effects of changes in the vehicle emissions on ambient ozone in an urban corridor.

- Directed a multidisciplinary team of engineers, statisticians, and air quality modelers in a multi-million dollar project to assess the effects of reformulated and alternative fuels on light-duty vehicle emissions and urban air quality for the U.S. Auto/Oil Air Quality Improvement Research Program, a consortium of three domestic automobile manufacturers and fourteen petroleum companies.

- Analyzed a complex data base of real-world exhaust and evaporative emissions and compared the real-world emissions to predictions of the MOBILE and EMFAC mobile source emission factor models. Developed revisions to the models so that they would more closely reflect the observed real-world emissions.

- Directed numerous studies of the air quality benefits derived from alternative mobile source emission control programs. For example, analyzed the air quality benefits of the adoption of the California Low Emitting Vehicle Program in the Northeast.

- Analyzed tailpipe emissions measured via remote sensing and compared the measurements to predictions of the MOBILE and EMFAC emission factor models. Compared the contribution of high-emitting vehicles between the remotely sensed measurements and the model predictions.

- Directed an analysis of in-use driving patterns for light-duty automobiles and compared the real-world driving patterns to the EPA Federal Test Procedure (FTP).

- Directed projects on the development of alternative driving cycles for light-duty vehicles and for heavy-duty trucks for both public and private sector clients.

- Directed several projects on the evaluation and sensitivity of different versions of the MOBILE and EMFAC regulatory computer models for estimating motor vehicle emissions factors.

- Directed numerous projects of the analysis of local, state, regional, and national emissions and air quality trends in criteria pollutants. For example, directed projects on the comparison and correlation of trends in ozone precursor emissions and ozone air quality for the New York City metropolitan region and for the South Coast Air Basin.

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Prior to joining ENVIRON, Ms. Pollack held the following position:

- Corporate officer and business unit manager for Systems Applications International, a division of ICF Kaiser International (ICFKI), one of the world's largest engineering, construction, and consulting services companies. Developed and managed all technical and business aspects of air quality consulting services related to mobile source emissions and also environmental data analysis and statistics.

ALISON K. POLLACK

PROFESSIONAL MEMBERSHIPS AND SERVICE

National Academy of Sciences Committee to Review EPA's Mobile Source Emissions Factor Model (MOBILE)
National Academy of Sciences Committee on Effectiveness of Vehicle Emission Inspection and Maintenance Programs
Air and Waste Management Association
American Statistical Association

PUBLICATIONS AND PRESENTATIONS SINCE 1990

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ALISON K. POLLACK

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ALISON K. POLLACK

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EXHIBIT B

EXHIBIT "B"

Exhibit "B" to Declaration of Alison Pollack

ENVIRON

MEMORANDUM

To: Ed Ochoa, CA Attorney General's Office

From: Chris Lindhjem, Alison Pollack, and Doug Daugherty

Date: 18 April 2002

Subject: Review of emissions increases with Mexican heavy-duty diesel trucks operating in California and elsewhere in the U.S.

Executive Summary

The purpose of this document is to provide a critical review of the air quality analysis of the environmental impacts of cross-border diesel truck emissions performed in support of the Federal Motor Carrier Safety Administration's (FMCSA's) Finding of No Significant Impact (FONSI) and the Programmatic Environmental Assessment (FMCSA, 2002). We find many shortcomings in the air quality analysis. The analyses that should be conducted and issues that should be addressed when evaluating the impact of the considered policy options include the following:

(1) The emission model used in the FMCSA, MOBILE5, is outdated and has been replaced with the recent release of MOBILE6 for Federal vehicles. Also, California has developed a similar model (EMFAC2001 is the latest release) for vehicles in use in California, though EMFAC can be difficult to use with nonstandard estimates. In these latest emissions models, NO_x emission rates for heavy-duty vehicles are higher. Use of these models would thus show more significant overall emissions and therefore a greater emissions impact from line-haul trucking activity.

(2) Differences between US and Mexican emission standards for heavy-duty diesel truck engines are not properly addressed. Mexican heavy-duty engines were not regulated before 1993, and future Mexican regulations of these trucks may not correspond to the US regulations starting in 2004, with additional reductions beginning in 2007. Because heavy-duty trucks are used for many years, higher emitting pre-1993 Mexican trucks will still be operating now and for some time to come. Therefore both present and future Mexican trucks will emit at higher levels than comparable California or Federal trucks, a fact not disclosed or analyzed in FMCSA (2002).

(3) Mexican truck fleets are on average older than California truck fleets. Combined with the differences in the emission standards, the older Mexican vehicle fleet will have higher emissions presently and in the future. This was not considered in FMCSA (2002).

(4) The US has entered in legal agreements to retrofit heavy-duty engines to correct a defeat device employed by many manufacturers to circumvent emission regulations. This retrofit agreement does not apply to Mexican vehicles, thus resulting in higher per vehicle emissions for Mexican line-haul trucks compared with California or other US trucks. FMCSA (2002) did not account for this difference between Mexican and US legal requirements.

(5) Localized impacts from air toxic emissions should be addressed in some areas because those areas, primarily located in border counties, will bear a far greater impact from the proposed increase in Mexican diesel truck traffic than any other area of the US. Evaluating overall US emissions as was done by FMCSA minimizes this impact. We have made a comparison of the effect of Mexican instead of California line-haul trucking for Imperial County using current emissions estimates; the analysis indicates a greater impact on this county than was estimated using US total comparisons.

For these reasons described in more detail in the remainder of this memorandum, California heavy-duty vehicle fleets emit much less than corresponding Mexican vehicle fleets and would impact California counties disproportionately. FMCSA's analysis should have compared the impact of the relative emissions rates between Mexican and California (or Federal for other states) vehicle fleets instead of assuming that these emissions were identical.

Emission Models

The proposed and no change alternatives were analyzed using EPA's MOBILE5 model, which is now an obsolete model. In January 2002, EPA released the dramatically updated version MOBILE6 for estimating on-road VOC, CO, and NO_X. For heavy-duty trucks and diesel-powered trucks (HDDV) in particular, NO_X emissions are higher in MOBILE6. Light-duty NO_X emissions are lower in MOBILE6, thus increasing the HDDV contribution to on-road NO_X emissions. The heavy-duty vehicle per mile emission rates using MOBILE5 and MOBILE6 are compared later in this document in Table 5, demonstrating higher NOx levels in general and widening the gap between lower California and higher Mexican vehicle emissions levels when emission standards, age distribution, and legally required rebuilds for US vehicles are appropriately considered.

EPA's model for estimating on-road particulate matter emissions is PART5. This model is very dated, and EPA is working on an update to be incorporated into MOBILE6, but that model revision is not yet available. PART5 PM10 emission rates, adjusted for differences between Mexican and US heavy-duty standards and age distributions, are higher for Mexican

vehicle fleets compared with California fleets. FMCSA (2002) erroneously assumed that each fleet emitted at identical levels.

EPA had released a draft version and provided documentation of the MOBILE6 model by early 2001, offered training courses in its use in September 2001, and had conducted and published a number of studies investigating the expected emissions effects with MOBILE6's use. FMCSA (2002) made no mention that the emissions model used in their analysis was expected to significantly change and that NOx emissions for HDDV were expected to increase markedly.

The State of California Air Resources Board (ARB) has used a California-developed emissions model, EMFAC, for on-road vehicle emissions inventory model; the latest release of EMFAC2001 that is available is version 2.08. EMFAC estimates VOC, CO, and NO_x, and PM. However, we had difficulty (because of an apparent bug in the model) in applying the Mexican age distribution to provide a comparison in emission rates between Mexican and California heavy-duty vehicle fleet emission rates using EMFAC2001.

One important effect included in EMFAC is the emission reductions associated with the use of California diesel fuel as shown in Table 1. Mexican (and out-of-state) heavy-duty diesel vehicles should have been modeled with higher emissions from the use of diesel fuels purchased out of state but consumed within California. California diesel fuel has additional requirements beyond federally mandated US diesel fuel: CA diesel has restricted the level of aromatics, lower distillation temperatures, and other parameters, and has been shown in testing to produce lower NOx and PM emissions in test engines.

Table 1. Emission reduction using California diesel fuel instead of US highway diesel fuel.

Model Year	NOx	PM
1994+	12.5%	10.3%
1991-93	12.5%	30.6%
pre-1991	5.8%	19.9%

Emission Standards

There are a number of assumptions in the air quality modeling FMCSA (2002) that should be revised to accurately assess the relative impacts of either the No Action or Proposed Action cases, both of which allow unrestricted access by Mexican vehicles on US roadways. FMCSA appeared to have assumed Mexican vehicles to be identical to US trucks in terms of the emission standards.

However, there are significant differences in absolute emission levels of the standards and in the implementation dates of those standards. Shown in the Tables 2-4 are the past, current, and future applicable standards for California, US Federal (including future California), and Mexican vehicles. While the current Mexican emission standards correspond to US standards,

the past and future standards for US heavy-duty vehicles were and will be more restrictive than those applicable to Mexican-regulated heavy-duty vehicles. There were no applicable emission standards for Mexican heavy-duty vehicles prior to 1993, and previous assessments (ICF, 2001) acknowledged and included this in their modeling, though FMCSA (2002) did not include this fact in its analysis. Future year effects were not modeled in FMCSA (2002), though the emissions from future US and Mexican vehicles are expected to diverge more widely than the emissions from current vehicles.

Table 2. California HDDV emission standards (g/bhp-hr).
(Urban buses have different standards for some model years).

Year	HC	CO	NOx	PM
1987-90	1.3	15.5	6.0	0.60
1991-93	1.3	15.5	5.0	0.25
1994+	1.3	15.5	5.0	0.10

Table 3. Federal HDDV emission standards.
(Urban buses have different standards for some model years).

Year	HC	CO	NOx	PM
1985-87	1.3	15.5	10.7	None
1988-89	1.3	15.5	10.7	0.60
1990	1.3	15.5	6.0	0.60
1991-93	1.3	15.5	5.0	0.25
1994-97	1.3	15.5	5.0	0.10
1998+	1.3	15.5	4.0	0.10
2004+	2.4 or 2.5 NMHC+NOx, limit of 0.5 on NMHC	15.5		0.10
2007+	0.14 NMHC proposed	15.5	0.2	0.01

Table 4. Mexican HDDV emission standards.

Year	HC	CO	NOx	PM
1993	1.3	15.5	5.0	0.25
1994-97 (HH urban bus/MH, light, other buses)	1.3	15.5	5.0	0.07/0.10
1998+ (HH urban bus/MH, light, other buses)	1.3	15.5	4.0	0.05/0.10

It should be noted that Federal and California regulations for 2007 and later engines require that diesel fuel sulfur levels to be significantly lower than diesel fuel currently produced to enable the future engine exhaust standards to be met. Without such lower sulfur levels,

vehicles meeting the US emission standards may not be able to operate properly in Mexico or may unintentionally compromise their emission control devices. We are not aware of any plans for Mexico to adopt similar low sulfur diesel fuel regulations; if not, then California vehicles that purchase fuel in Mexico and return to operate within California will have compromised their emission control devices.

Mexican trucks using the current California diesel could have reduced NOx and PM emissions from current levels. Additional, though marginal, PM emissions reductions could be realized with use of the future Federally mandated lower sulfur diesel fuels, though Mexican adoption of all of the U.S. emission standards (including exhaust) would realize greater benefit.

Age Distribution

Based on the quote below, it appears that the FMCSA analysis made no distinction between Mexican and US vehicle emissions or age distribution.

> *"Only heavy-duty gasoline and diesel vehicles and buses were modeled. The default fleet mix for vehicle-miles-traveled as provided by the models was used." FMCSA (2002)*

This assumption ignored previous work (shown below from ICF, 2001; referenced by FMCSA) where significant differences were noted between Mexican and US vehicle fleets in both average age and emission standards and reflected in the estimated age distributions and air quality analysis.

> *"The emission factors are dependent upon the age of the fleet and mileage accumulation rates. The (1999) age distributions for the U.S. and Canadian trucks were based on line haul truck registration data. The trucks were assumed to have national average levels of tampering and not subject to an Inspection/Maintenance program. PM-10 factors only reflect exhaust emissions, not re-entrained road dust. The Mexican line-haul fleet was assumed to have the same age distribution as Canada and the U.S. However, pre-1993 Mexican trucks are treated as unregulated emissions (pre-1988 U.S. fleet with appropriate mileage accumulation), since Mexico had no diesel truck emission standards prior to that model year. We assumed the Mexican drayage fleet (for cross-border movements) was an average of five years older than the U.S. and Canadian line-haul fleets, with the resulting net effect that only 10% of the fleet was post-1993 trucks. Diesel fuels in Mexico were assumed to be the same as the U.S., with 500 parts per million (ppm) sulfur." ICF (2001)*

In addition, age distribution information is available for several border crossings; these data demonstrate the increased age of the Mexican fleet. ARB has investigated age distributions for California and Mexican vehicle fleets in several border counties including those for Imperial County. Figure 1 compares the ARB assumptions for the age distributions for Mexican and

California heavy-duty vehicles in Imperial County; the figure shows that ARB assumes that Mexican vehicles are older on average than their US counterparts.

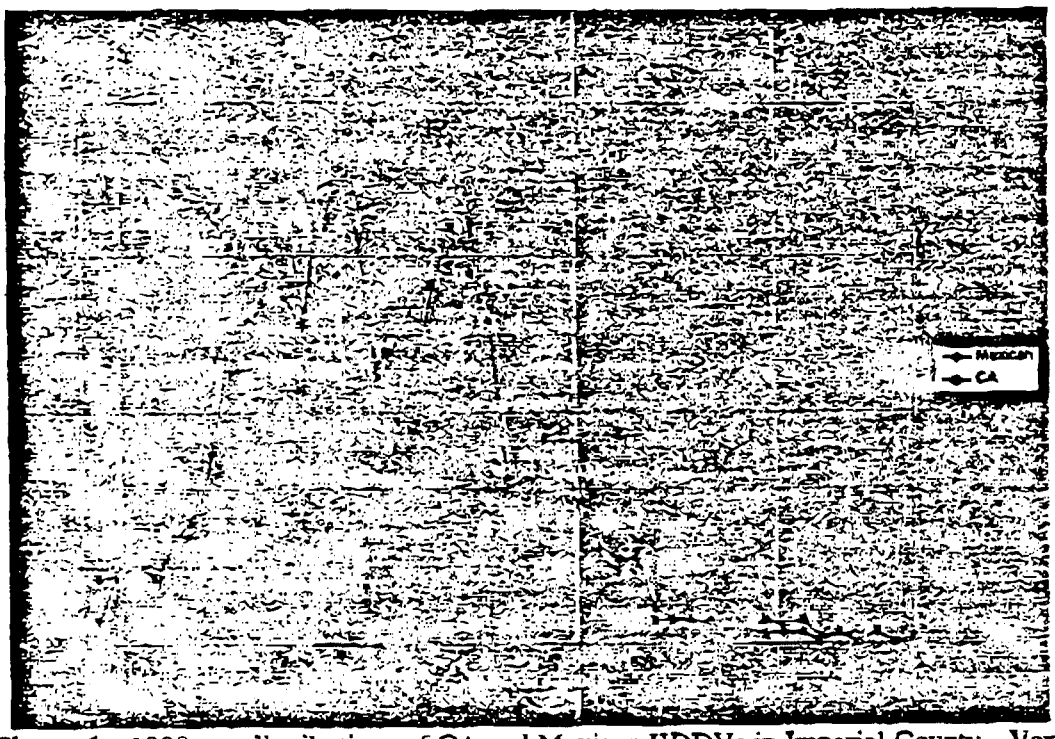

Figure 1. 1998 age distributions of CA and Mexican HDDVs in Imperial County. Vertical axis is the proportion of the HDDV fleet corresponding to each year of age.

Consent Decree

In late 1998, the Department of Justice and the U.S. Environmental Protection Agency entered into a Consent Decree with heavy-duty engine manufacturers, who were charged with selling engines equipped with so-called "defeat devices" that allow an engine to pass the EPA emissions test, but then turn off emission controls during highway driving. This resulted in "off-cycle" NO_x emissions (i.e., emissions from engines running at different operating parameters than in the EPA certification test cycle) being significantly higher for these engines. Among other provisions, the Consent Decree stipulates that the engine manufacturers must provide rebuild kits to reduce the NO_x emissions in 1993-1998 model year trucks. EPA (May 27, 1999) subsequently sent a letter to all rebuilders of engines in the US explaining the requirements that all rebuilt engines with significant rebuilds[1] must rebuild with the low NO_x rebuild kits provided by the engine manufacturers. In a letter from one of the engine

[1] Those where all cylinders are rebuilt before 290,000 miles for HHDDV, and if any cylinder is rebuilt if the trucks have more than 290,000 miles.

manufacturers to its distributors (Cummins, dated June 2, 1999), the breadth of the program is outlined:

available. Receptor locations can be simply modeled as a defined receptor grid in populations centers such as Calexico, El Centro, Imperial, and Brawley (largest distance is about 4 kilometers from Interstate 8 to northern El Centro and, therefore, can be modeled using local air dispersion models) shown in Figure 2. Source locations in these population centers would be the highways where the increase in air toxics emissions from Mexican trucks is expected to occur due to the increased number of Mexican trucks entering the U.S. near the transfer station east of Calexico (e.g., Interstate 8 and State Highways 86, 98, and 111) as shown in Figure 2. Model inputs for source emissions are discussed in comments above and can be modeled on a mass per mile of highway basis. Several meteorological stations with the meteorological data necessary for air dispersion modeling are also located in the Calexico/El Central/Imperial area as shown in Figure 2.

FMCSA (2002) has completely omitted this kind of analysis, and provided no information on local effects of the No Action and Proposed Actions scenarios. This deficiency does not allow a proper assessment of the air quality impacts.